TRIPLETT

INSTRUCTION MANUAL

MODEL 602 TYPE 2

AUTO POLARITY

SOLID STATE V-O-M

INSTRUCTION MANUAL

MODEL 602
SOLID STATE V-O-M

TRIPLETT CORPORATION
BLUFFTON, OHIO 45817

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Part No. 84-216

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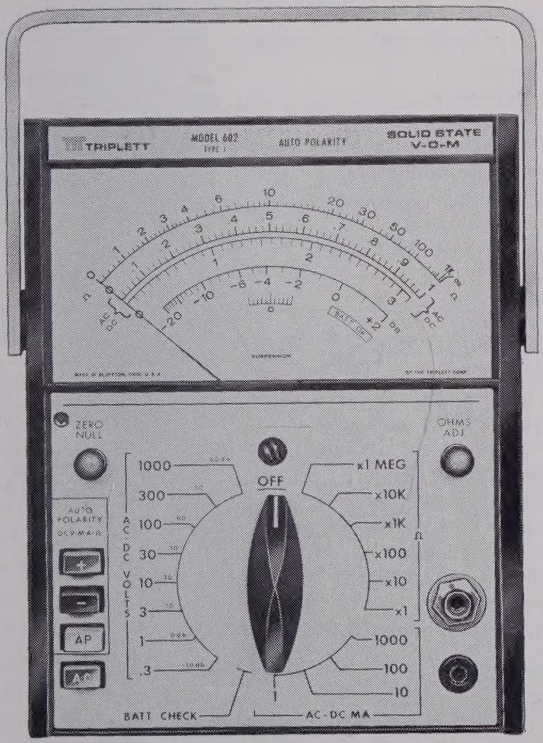


MODEL 602

SOLID STATE V-O-M

SPECIFICATIONS

DC VOLTS

Ranges:
.3, 1, 3, 10, 30, 100, 300, 1000.
Accuracy:
3% all ranges.
Auto Polarity:
Pointer indicates up scale for either polarity.
Polarity Determination:
Push Button + or —.
Input Resistance:
11.12 Meg — All ranges.

AC VOLTS

Ranges:
.3, 1, 3, 10, 30, 100, 300, 1000.
Accuracy:
3% all ranges.
Frequency Compensation:
All ranges except 300 and 1000 V.
Frequency Range:
20 Hz to 50 KHz — .3 - 1.0 - 3.0 - 10 - 30 ranges
20 Hz to 20 KHz — 100 range
Input Resistance:
10 Meg — All ranges.
Detection:
Average calibrated in RMS.

OHMMETER

Ranges:
RX1, RX10, RX100, RX1K, RX10K, RX1 Meg.
Open circuit voltage 1.5 V — All ranges.
Max. power applied to device under test on RX1 range 57 Milliwatts.
All other higher ranges the power is correspondingly less.
Center scale 10 Ohms.
Measurement Range — .2 Ohms to 1000 Megohms.
Accuracy 3% of DCV arc.

CURRENT (AC, DC)

Ranges:
1 MA, 10 MA, 100 MA, 1000 MA.
Accuracy:
4%.
Auto Polarity:
Pointer deflects up scale with either positive or negative current flow.
Polarity Determination:
Push Button + or —.
Circuit IR Drop 300 Millivolts on all current ranges.

METER

50 uA Suspension.

BATTERIES

	Eveready Burgess Carbon-Zinc		Mallory Alkaline	Mallory Mercury
2—9 V Neda 1604	216	2U6	M-1604	TR146X
1—1½ 7 ASA "D"	950	AL-2	Mn-1300	RM 42R

CONSTRUCTION

Black molded high impact plastic case; outside dimensions 3 3/16" x 5⅛" x 6½" with metal handle that can be used to place instrument on approximately 25° angle. Anodized aluminum panel.

WEIGHT

Approximately 2½ pounds with batteries.

ACCESSORIES supplied with Model 602

1 Probe Assembly
1 Ground Lead
2 Alligator Clips
3 Batteries 2—9 V, 1—1½ V
1 Instruction Manual

ACCESSORIES AVAILABLE

Leather Carrying Case	Part No. 101-793 Model 639-OS
High Voltage Probe	Part No. 79-270
RF Probe	Part No. 79-264

GENERAL DESCRIPTION

The Model 602 is a new concept in Solid State V-O-M's. It offers several advantages over conventional V-O-M's. The first is Auto Polarity. This feature saves the user valuable time. For example, in measuring current, polarity is usually of little importance; connections can therefore be made very quickly without regard for polarity. Measuring battery voltage is another good example; polarity need not be known for this check. When troubleshooting, 95% of the time the polarity of the voltages to be measured is known and therefore this type of V-O-M can be used to make measurements more quickly. Auto Polarity eliminates the need for continually switching the leads.

Another advantage is that the same amplifier is used for all functions, ACV-DCV-current and resistance measurements. This cost savings is passed on to the user in a lower selling price.

Since the same amplifier is used for AC and DC functions, input resistance is high for both. Sensitivity of .3 V full scale is the same for ACV and DCV.

The amplifier incorporates a high degree of feedback and therefore both AC and DC meter tracking scales are linear. Only two voltage scales are used for all AC-DC current and voltage ranges. This is a great time saving feature. Makes the tester easy to use. Also because of feedback, meter moving coil copper changes, with temperature, are automatically compensated. Thus the tester can be used over a wide temperature range 32° to 120° F without loss of accuracy.

When in Auto Polarity the indicator is not adjusted for zero as in conventional meters. The Model 602 is adjusted for zero null. This means that a zero adjust can be made from an angle because the operator merely adjusts for a null, and therefore parallax of the pointer can be neglected. This is another time saving feature.

PREPARING THE INSTRUMENT FOR USE

Unpack the Model 602 and visually inspect the unit to make certain no damage was incurred during shipment. If damaged, report immediately to local Triplett distributor or service station.

To derive most benefit from this instrument it is recommended that the operator or user read the instruction manual in its entirety before attempting to use the instrument. This is particularly important with this unit because the principles of operation are somewhat different than conventional V-O-M's.

Battery Condition Information

The tester uses two types of batteries, a D cell for resistance measurements and two 9 Volt batteries for an amplifier circuit. The condition of the 9 Volt batteries is given when the range switch is positioned to "Batt Test". The indicator pointer should fall into the area of the "Batt OK" or above on the meter dial.

The D cell condition is determined when the range switch is set to any of the resistance ranges and the zero and full scale adjustments are made. If the D cell is low, the Ohms Adjust pot will not be capable of positioning the pointer to full scale.

Battery Installation

Battery Types 1—"D" Cell 2—9 Volt Neda 1604

1. Unpack batteries and visually inspect for damage or leakage.
2. Remove back case by loosening thumb screw at rear and pulling apart.

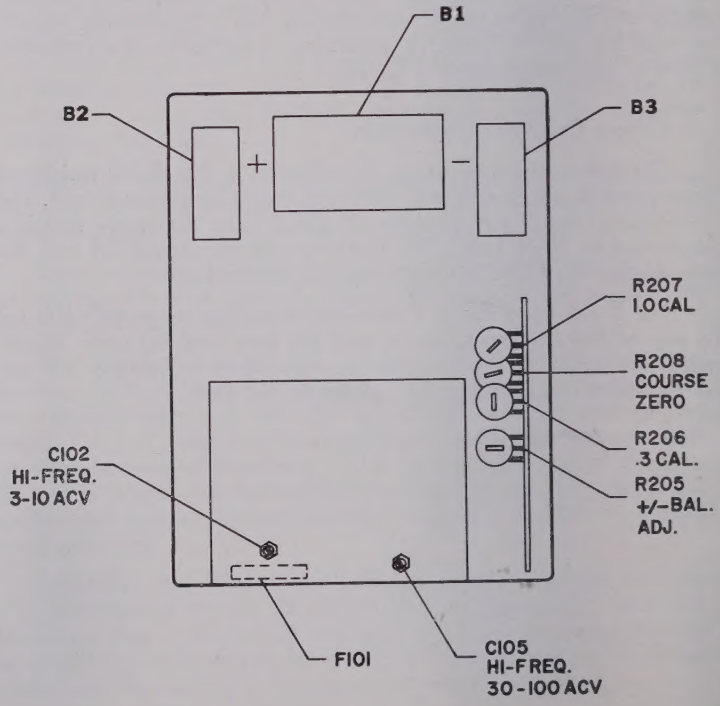


Fig. 1

Battery Location

Battery Installation (cont'd.)

3. Install D cell, observing polarity as indicated in Fig. 1.
4. Install two 9 Volt batteries, first snap battery terminal to batteries and then insert into side pockets as illustrated in Fig. 1.
5. Re-install in rear case.
6. Test for condition of batteries as outlined above.
7. Turn range selector to OFF position. Check mechanical zero of pointer. If off, adjust with screw driver by turning zero adjust screw located below window in the center of the tester.
8. Adjust the range switch to 300 V and the function push button to AP. Adjust the ZERO NULL control. The pointer will reach a minimum point when the ZERO NULL control is slowly rocked back and forth. The minimum reading should fall at near zero. If it does not, the mechanical zero is incorrectly set. Reset mechanical zero and readjust ZERO NULL, or an alternative zero adjustment is to depress + or — button and adjust ZERO NULL control for zero.
9. The tester should now be ready for use.
10. For more detailed instructions on pointer zeroing refer to the calibration maintenance section.

THEORY OF OPERATION

The basic circuit for the Model 602 is a stable amplifier with a high degree of feedback. Therefore any component changes due to age or environmental conditions will not affect the accuracy of the tester.

The operation of the circuit is as follows: Refer to schematic of Fig. 3. With the AP push button depressed the circuit is set up for DC Volts, DC current and ohms. In DC Volts, the input voltage, is applied to the top of the resistive voltage divider R101 to R107. Switch SW101 picks off a divided voltage (depending on where the range selector is set) and applies it to the RC filter R202 and C201. The function of the filter is to remove any AC signal that may be superimposed on the DC voltage being measured.

The output of the filter is applied to R204 and diode CR201. The purpose of this network is to afford overload protection to the input field effect transistor. The voltage applied to Q201 is amplified and applied to Q202 for further amplification.

Output of Q202 is applied to a diode meter bridge. Two diodes are used. On positive voltages CR203 conducts and on negative voltages CR202 conducts, thus there is unidirectional current flow through the meter regardless of polarity.

To determine what polarity is being measured, the plus or minus switches are operated. This indication is as follows. If a positive voltage is applied to input, the meter will give an up scale reading. If the positive button is depressed the reading remains the same. If the negative button is depressed the indication falls to below zero. The reverse is true for a negative polarity. The output of the bridge meter circuit is connected through a balance potentiometer to a Darlington transistor stage Q203-Q204. The Darlington pair couple the output of the bridge to the input stage source element. The Darlington accomplishes this without loading or loss in the loop. This feedback stabilizes the gain of the circuit and also makes the output linear regardless of the series diodes.

AC VOLTS CIRCUIT

With the AC push button depressed the AC voltage to be measured is applied to the input frequency compensated divider R101 to R107. Coupling condenser C101 is also switched in series to block any DC voltage. The output of the frequency compensated divider is fed through the diode protection network to the FET Q201. Q201 and Q202 amplify the AC voltage and apply it to the diode meter bridge. Diodes CR203 and CR202 conduct alternately on positive and negative half cycles to rectify the AC being measured. Thus the current flow through the meter again is unidirectional. Since the bridge is purely resistive, the detection is full wave average and the meter is calibrated in RMS. The output of the bridge is fed through a balance potentiometer to the Darlington pair back to the input stage as feedback. Due to this feedback the AC measurements are very linear down to 1% of scale.

RESISTANCE MEASUREMENT CIRCUITS

Unlike conventional V-O-M's where the test leads are reversed to change polarity, the Model 602 reverses the battery when reverse polarity is needed.

The ohms battery (D cell) is reversed when the negative polarity button is depressed. With neither polarity buttons depressed the battery is connected so that a positive polarity is applied to the red test probe. When positive polarity button is depressed there is no change, the polarity remains positive to red test probe.

The amplifier is utilized for resistance measurements. The negative or common terminal is connected through the fuse to one side of the ohms battery. The red test probe is connected through any one of the R101 to R107 resistors (depending on resistance range used) to the other side of the battery.

The red test probe is also connected to the FET amplifier. Thus with the test leads open the battery potential of 1½ volts is applied to the input of the amplifier. Normally the meter would deflect beyond full scale, however, in the resistance position of the range selector the amplifier is desensitized to 1½ V full scale. This is accomplished by altering the feedback network R209 to R1. The ohms adjust control R1 is part of this network. It is adjusted so that the pointer rests at full scale.

With the test leads shorted together the 1½ V potential is shorted out, and the pointer falls to zero.

It should be remembered that in the open position, any one of the R101 to R107 resistors is in series with the battery and input of the amplifier. Thus when the resistance to be measured is equal to the range resistor the voltage is divided in half to .75 Volts and the indicator would fall to half scale. Thus the scale is calibrated in this manner. The smallest range resistor thus determines the minimum center scale value. In this case it is 10 ohms.

OPERATION

DC VOLTAGE MEASUREMENTS

1. Slide switch on red probe body to DCV.
2. Switch range selector to desired DCV range.
3. Depress push button labeled AP for Auto Polarity.
4. Zero null indicator — short test leads together and adjust Zero Null control for a minimum indication of pointer which should be zero if the mechanical zero is correctly set. The ZN control should be rocked back and forth around zero to obtain an absolute minimum reading.
5. Connect test leads across voltage to be measured. The pointer will indicate up scale regardless of polarity. If reading is below 1/3 scale set range selector to next lower range. If beyond full scale adjust range selector to higher range.
6. Determining Polarity — push either + or — push button. If reading remains, the polarity to the red probe is that of the push button depressed.

   If the reading falls to below zero the opposite polarity is present.

Note — Zero Center Measurements, .3 — 3.0 — 30 — 300 ranges only. Depress + button and adjust Zero Control for mid scale indication.

RESISTANCE MEASUREMENTS

1. Set slide switch on probe body to Ω.
2. Depress AP push button for Auto Polarity.
3. Set range selector to 300 Volts position. Make zero null adjustment (same as in DC Volts).
4. Set range selector to desired resistance range (open test leads).
5. Adjust Ohms Adjust Control for full scale or ∞ indication.
6. Place test leads across resistor to be measured. Take reading and multiply reading by range multiplier. For example, if range selector is set to RX1K and reading is 50 then value of resistor is 50,000 ohms.
7. Note — In RX1 position of range selector, when the test leads are shorted together the instrument will measure the resistance of the test leads about .5 ohms. Under no circumstances should the operator attempt the Zero Null adjustment with the leads shorted together. An error in measurement will result.
   The proper procedure for making a resistance measurement in the RX1 position is as follows: Make Zero Null adjustment in the 300 DCV position or higher ohms ranges such as RX1K with the test leads shorted. Return range selector to RX1, short leads and note reading about .5 ohms. Place test leads across resistor to be measured. Note reading and mentally subtract initial reading (.5 ohms) from final indication to obtain true resistance reading.
8. Polarity — the Model 602 is designed to apply a positive voltage to the red probe, in the Auto Polarity position. If the + button is depressed the polarity remains the same, positive to red probe. If the — minus button is depressed the ohms battery is reversed and a negative voltage appears at the red probe with respect to the black lead.

CURRENT MEASUREMENTS

1. Set slide switch on red probe to MA.
2. Set Range Selector to desired current range.
3. Depress AC push button for AC current measurements or AP for DC current measurements.
4. Zero null indicator.
5. Connect to current source to be measured. If reading is below 1/3 scale, adjust range selector to next lower range, if beyond full scale adjust to higher range.
6. Polarity — if measuring DC current and polarity needs to be determined, depress + or — button and observe indicator.

In the current measurement mode the amplifier is used to measure the voltage developed across the current shunts R108 to R111. The shunts are designed for a 300 MV drop for a full scale indication, thus the amplifier with a 300 MV sensitivity for all current ranges AC or DC.

AC VOLTAGE MEASUREMENTS

1. Set slide switch to probe body to ACV.
2. Depress AC push button.
3. Set range selector to desired ACV range (short test leads together).
4. Zero null indicator.
5. Connect test leads to voltage to be measured. If reading is below 1/3 scale set range selector to next lower range. If beyond full scale adjust range selector to higher range.

DB MEASUREMENTS

1. Set up voltmeter as in making ACV measurements.
2. Connect to voltage source. Voltage or current measurements can be made directly.
   Read dB scale and add to range selector dB marking.
3. The Range Selector and scale designations are based on a reference of 1 Milliwatt across 600 ohms and 0 dB is equal to .776 volts. The Range Selector steps are designed for a ratio of 3.16 or 10 dB per step.
   For impedances other than 600 ohms, refer to DB Correction Chart.

This meter is capable of direct dB measurements by direct addition of range and dial dB readings. Example: If the meter scale is at —4 dB and the range at + 10 dB the level is +6 dB. If the range is at —10 dB with the same —4 dB on the meter the level is —14 dB, again by direct addition of range and scale readings. Both AC and DC dB measurements can be made in this manner.

The following formula can be used to convert the dB reading into watts:

$$P_{(watts)} = (1 \times 10^{-3}) \text{ antilog } (dB/10)$$

$$P_{(mw)} = \text{antilog } (dB/10)$$

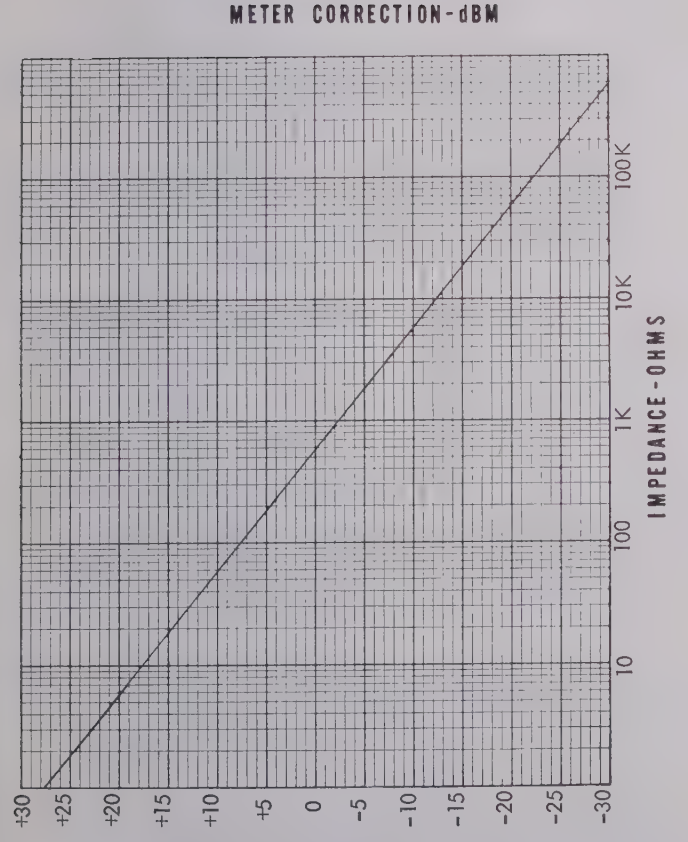


Fig. 2 DB Correction Chart

CALIBRATION — MAINTENANCE

This section contains testing and service information. Periodic routine maintenance required by the Model 602 is replacement of batteries.

Repair or Service

In the event repair or service is required, please outline the nature of the difficulty. By providing this information, Triplett can supply more efficient service.

Inoperative Unit

Should your Model 602 become inoperative, the first recommended step is a battery check. This is given in the battery installation section. One can also use a V-O-M and check all batteries individually.

Fuse

The fuse located on PC board, as shown on Page 22 as F101, is electrically placed in series with the negative test lead, thus it is most likely to blow (due to overloads) when using the current ohms ranges. When blown the input becomes open, although the DC ZERO NULL, the amplifier and OHMS ADJ. will remain functional. A spare fuse is located below B1 1.5V battery, in a depression behind meter.

REQUIRED TEST EQUIPMENT FOR CALIBRATION

1. DC voltage source .3 V to 1 KV with output accuracy of 0.5%.
2. DC current source 1 MA to 1 A with output accuracy of 0.5%.
3. AC voltage source .3 V to 1 KV with output accuracy of 0.5% (60 or 400 Hz).

4. AC transfer standard, to produce accurate voltages over frequency range of 10 Hz to 50 KHz with output of .3 to 100 Volts at 0.5% accuracy.

MECHANICAL ZERO ADJUSTMENT

1. Turn instrument off.
2. Rotate meter adjustment screw, located below meter face until pointer indicates zero exactly.

ELECTRICAL ZERO ADJUSTMENT

1. Set push button switch to AP and range selector switch to 300 Volt.
2. Rotate ZERO NULL control on front panel to clockwise stop.
3. Adjust COARSE ZERO CONTROL R208 (screw driver adjust on PC board, see Fig. 1), for a full scale or little beyond, meter reading.
4. Rotate ZERO NULL control on front panel, for a minimum zero meter indication (the ZERO NULL control must be slowly rocked back and forth). If minimum reading does not fall to zero, re-adjust meter mechanical zero.

PLUS-MINUS BALANCE ADJUSTMENT

1. Set range switch to 300 V range, depress + push button; adjust ZERO NULL control for exact zero meter indication.
2. Set range selector to X1K OHMS, with push button switch on + polarity.
3. Rotate OHMS ADJ. on front panel for exact full scale meter reading.
4. Push MINUS push button, and adjust R205 (screw driver adjust on PC Board, see Fig. 1) for same exact full scale meter reading.
5. Repeat entire procedure, until the circuit has been balanced.

DC VOLT — DC CURRENT CALIBRATION

1. Set range selector switch to .3 DCV push button switch on AP. Probe switch on DCV.
2. Short test leads together and adjust ZERO NULL control for exact zero meter indication.
3. Apply .3 DCV and adjust R206 (screw driver adjust on PC Board, see Fig. 1) for full scale indication of 3.0 (this adjustment calibrates .3 — 3.0 — 30 — 300 AC-DC ranges).
4. Apply 1.0 DCV and adjust R207 (screw driver adjust on PC Board, see Fig. 1) for full scale indication of 1.0 (this adjustment calibrates 1.0 — 10 — 100 — 1 KV AC-DC ranges).
5. Check all ranges by applying full scale voltages.
6. Set probe switch on MA position, set range selector switch to current ranges. Check all ranges by applying full scale currents. Calibration of this circuit should not be required, since it is a function of .3 DCV calibration R206 and fixed value R201.

AC VOLT CALIBRATION

1. Set probe switch to AC, push button switch on AC, range selector switch to 300 Volt range. Short test leads, adjust ZERO NULL control on front panel for zero meter indication.

   Calibration of this circuit should not be required, since the same basic amplifier and calibration adjustments are used for both AC and DC ranges. However, if re-calibration on ACV ranges is desired, please note following:

   .3 — 3.0 — 30 — 300 AC-DC ranges — Adjust R206
   1.0 — 10 — 100 — 1 KV AC-DC ranges — Adjust R207
2. Set range switch to 3 ACV using a transfer standard obtain a reference indication near full scale at a frequency of approximately 60 Hz. Apply the exact same magnitude of sig-

nal at 50 KHz and adjust C102 until meter indication is exactly as the reference reading. See Fig. 1 for location of trimmer.

3. Set range switch to 30 ACV using a transfer standard obtain a reference indication near full scale at a frequency approximately 60 Hz. Apply the exact same magnitude of signal at 50 KHz and adjust C105, until meter indication is exactly as the reference reading.

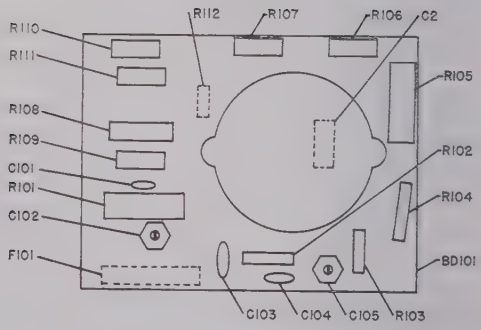
OHMS RANGES

There is no calibration required for ohms ranges. The unit may be checked for proper function, as follows:

1. Set slide switch on probe to OHMS position. Push button switch on AP, range selector switch to 300 DCV range.
2. Adjust ZERO NULL control on front panel for zero meter indication.
3. Turn range selector switch to X1 ohms range, rotate OHMS ADJ. control on front panel for exact full scale meter reading or ∞ indication.
4. Check each range at $1/2$ scale (10 ohms or multiple of 10 ohms depending on range setting) using following 0.5% resistors:

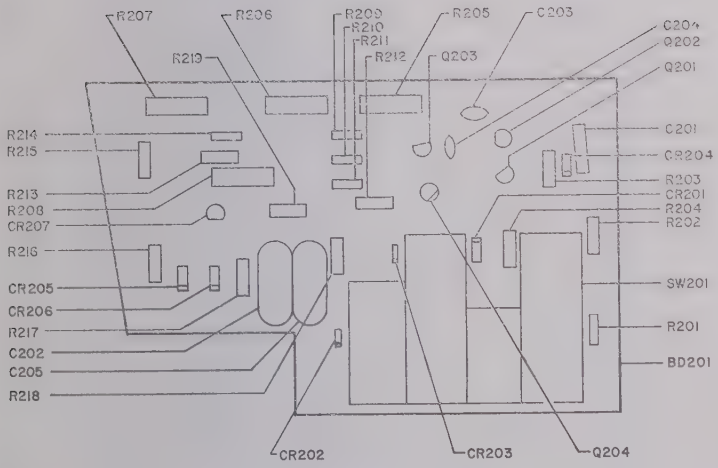
X1 range =	10 ohm	X1K range =	10 K
X10 range =	100 ohm	X10K range =	100 K
X100 range =	1 K	X1M range =	10 Meg.

PARTS LOCATION

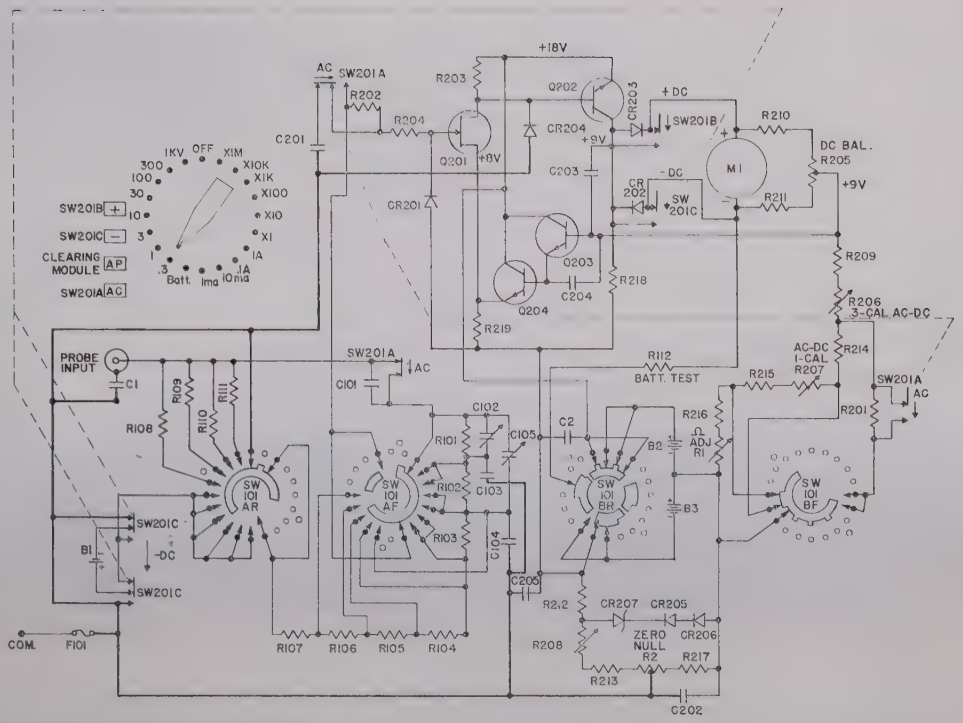


BD101

PARTS LOCATION



BD201


+18V
AC
SW201A
R203
R202
R204
Q202
CR203
+DC
SW201B
R210
DC BAL.
R205
C201
Q201
+8V
CR204
+9V
C203
-DC
CR
202
SW
201C
M1
R211
+9V
CR201
Q203
R218
R209
R206
3-CAL. AC-DC
Q204
C204
R219
AC-DC
I-CAL
R207
R214
SW201A
AC
R112
BATT. TEST
R215
R201
PROBE
INPUT
C1
SW201A
AC
C101
C102
C105
C2
R216
Ω
ADJ
R1
B2
R109
R111
R108
R110
R101
SW
101
AR
SW
101
AF
SW
101
BR
SW
101
BF
R102
C103
B3
SW201C
B1
-DC
SW201C
R103
C104
C206
R212
CR207
CR205
ZERO
NULL
R2
CR206
R208
R217
R213
C202
COM.
F101
R107
R106
R105
R104
1KV
OFF
1M
300
100
30
10
3
1
.3
Batt.
1ma
10ma
1A
.1A
10K
1K
100
10
1
SW201B
SW201C
CLEARING
MODULE
SW201A
AP
AC

REPLACEABLE PARTS

CKT. SYM.	REQ.	DESCRIPTION	PART NO.
B1	1	Battery, 1.5 Volt	2426-1
B2	1	Battery, 9 Volt	37-36
B3	1	Battery, 9 Volt	37-36
	2	Battery Connectors	92-8
BD101	1	P. C. Board W/Components	87-271
BD201	1	P. C. Board W/Components	87-239
C1	1	Capacitor, .04MF	43-286
C2	1	Capacitor, 1MF	43-280
C101	1	Capacitor, .02MF	43-125
C102	1	Capacitor, 1-12PF	43-287
C103	1	Capacitor, 100PF	43-345
C104	1	Capacitor, 1000PF	43-346
C105	1	Capacitor, 1-12PF	43-387
C201	1	Capacitor, .1MF	43-297
C202	1	Capacitor, .33MF	43-321
C203	1	Capacitor, 27PF	43-369
C204	1	Capacitor, 330PF	43-223
C205	1	Capacitor, .33MF	43-321
CR201	1	Diode	10991
CR202	1	Diode	127-27
CR203	1	Diode	127-27
CR204	1	Diode	2250-55
CR205	1	Diode	11056
CR206	1	Diode	11056
CR207	1	Diode	127-74
F101	1	Fuse, 1 Amp	3207-43
	1	Jack, Shielded	33-57
M	1	Instrument Assembly	52-4439
Q201	1	Transistor	127-26
Q202	1	Transistor	127-72
Q203	1	Transistor	127-37
Q204	1	Transistor	127-73
R1	1	Resistor, Variable, 3K Ohm	16-219
R2	1	Resistor, Variable, 50K Ohm	16-185
R101	1	Resistor, 9 Meg. Ohm	15-5412
R102	1	Resistor, 900K Ohm	15K-9003TC5
R103	1	Resistor, 90K Ohm	15K-9002TB3
R104	1	Resistor, 9K Ohm	15K-9001TB5
R105	1	Resistor, 900 Ohm	15K-9000TB5
R106	1	Resistor, 90 Ohm	15-5402
R107	1	Resistor, 9.9 Ohm	15-5403
R108	1	Resistor, .290 Ohm	15-5404
R109	1	Resistor, 3 Ohm	15-5405

REPLACEABLE PARTS

CKT. SYM.	REQ.	DESCRIPTION	PART NO.
R110	1	Resistor, 30 Ohm	15-5406
R111	1	Resistor, 300 Ohm	15-5407
R112	1	Resistor, 75K Ohm	15R-753JC
R201	1	Resistor, 255 Ohm	15K-2550TB3
R202	1	Resistor, 1 Meg. Ohm	15R-105KC
R203	1	Resistor, 12K Ohm	15R-123KC
R204	1	Resistor, 75K Ohm	15R-753KC
R205	1	Resistor, Variable, 250 Ohm	16-205
R206	1	Resistor, Variable, 250 Ohm	16-205
R207	1	Resistor, Variable, 500 Ohm	16-190
R208	1	Resistor, Variable, 500K Ohm	16-220
R209	1	Resistor, 2.05K Ohm	15K-2051TB3
R210	1	Resistor, 4K Ohm	15K-4001TB3
R211	1	Resistor, 4K Ohm	15K-4001TB3
R212	1	Resistor, 33K Ohm	15R-333KC
R213	1	Resistor, 120K Ohm	15R-124KC
R214	1	Resistor, 119 Ohm	15K-1190TB3
R215	1	Resistor, 4.83K Ohm	15K-4831TB3
R216	1	Resistor, 3.6K Ohm	15R-362KC
R217	1	Resistor, 220K Ohm	15R-224KC
R218	1	Resistor, 27K Ohm	15R-273KC
R219	1	Resistor, 33K Ohm	15R-333KC
SW101A	1	Deck "A"	22-578-1
	1	Deck "A" W/Components	22-579
SW101B	1	Deck "B"	22-578-2
	1	Deck "B" W/Components	22-580
SW201	1	Push Button Switch	22-574
	1	Push Button Switch Ass'y.	22-581
	1	Test Lead Ground	79-261
	1	Test Lead Probe	79-288
	1	Staking Ass'y.	3306-9
	1	Retaining Ring	11966
	1	Detent Ball	11935
	1	Spring, Detent	42-273-2
	1	Case, Ass'y.	10-2293
	1	Knob, Ass'y.	34-94
	2	Knob	34-74

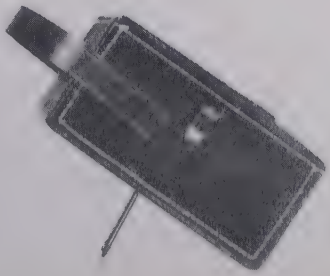
ACCESSORY ___ LEATHER CARRYING CASE

LEATHER CARRYING CASE

CASE 639-OS
Part No. 101-793

MODEL 639-OS

Black leather case, has built-in stand on back. Flaps open to permit use of tester in case. Compartment for accessories. For use with 600 series testers. Felt lined. Leather strap handle.



WARRANTY

The Triplett Corporation warrants instruments manufactured by it to be free from defective material or factory workmanship and agrees to repair or replace such instruments which under normal use and service, disclose the defect to be the fault of our manufacturing. Our obligation under this warranty is limited to repairing or replacing any instrument or test equipment which proves to be defective, when returned to us transportation prepaid, within ninety (90) days from the date of original purchase.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons or service stations in any way so as, in our judgment to injure their stability or reliability or which have been subject to misuse, negligence or accident or which have had the serial number altered, effaced, or removed. Neither does this warranty apply to any of our products, which have been connected, installed, or adjusted otherwise than in accordance with the instructions furnished by us. Accessories including all vacuum tubes and batteries not of our manufacture used with this product are not covered by this warranty.

The Triplett Corporation reserves the right to discontinue models at any time, or change specificatons, price or design, without notice and without incurring any obligation.

Upon acceptance of this material the purchaser agrees to assume all liability for any damages, and bodily injury which may result from the use or misuse of the material by the purchaser, his employees, or others and that the Triplett Corporation shall incur no liability for direct or consequential damage of any kind.

Parts will be made available for a maximum period of five (5) years after the manufacture of this equipment has been discontinued. Parts include all materials, charts, instructions, diagrams, accessories, et cetera, which were furnished in the standard or special models.

This warranty and conditions of sale are in lieu of all others expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

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